

St. Catherine Creek NWR  
Summary of Deer Harvest Data 2005-2009

### **Herd Health Assessment – Fall 2009**

This deer herd health assessment was conducted by the Southeastern Cooperative Wildlife Disease Study, University of Georgia. Findings from this report indicate that the nutritional condition of the herd is possibly near nutritional carrying capacity because of the levels of abnormal parasite loads. Overall, deer were in fair condition and disease-related mortality is not likely occurring at this time. However, if the herd density increases, parasite loads would increase causing increased risk for disease-related mortality and decreased recruitment.

#### **Future Considerations:**

- 1) Density-dependent factors are the main regulating factors causing disease/parasitosis occurrence on St. Catherine Creek NWR. Management of deer density on St. Catherine Creek NWR should focus on harvesting enough adult female deer from the population to maintain the population below carrying capacity. Subsequent health assessments should be completed every 3-5 years with a higher number of animals ( $n \geq 10$ ) culled for evaluation to increase validity of the data.
- 2) While maintaining deer condition at good to excellent levels should be a refuge goal, management must evaluate habitat condition on an annual basis on the refuge to ensure that the deer density does not reduce the desired habitat conditions based on our habitat management plan.
- 3) Because the 2008-09 and 2009-10 female deer harvest were both below the 2005-08 average of 97 does harvested by an average of 28 does each year, adequate harvest of deer during hunting seasons 2010-11 and 2011-12 will be critical to both increasing the condition of deer from fair to good and maintaining desired habitat conditions. Maintaining deer population levels near carrying capacity could be detrimental both to the habitat we manage and the susceptibility of the herd to abnormal parasitic loads and unforeseen mortality.

### **Population & Harvest Trends**

#### *Considerations – based on harvest data from 2005-2009*

- 1) Overall, during a normal year when the river does not significantly influence deer movements, harvest approaches 200 deer per year (Figure 1). General age structure of the herd appears to approach normal distribution with several deer exceeding 4.5 years of age each year. However, female age distribution was more normal than male age distribution, but this is expected on a refuge that targets opportunity based management. It would not surprise me if the male age distribution becomes more normally distributed during the next few years based on changes to state regulations pertaining to antler size restrictions. This should be evaluated.
- 2) The Mississippi River affects the timing of harvest on the refuge (Figure 2). In the fall when the river is rising, harvest increases until it reaches a threshold whereby escape/bedding habitat becomes limiting and deer move off of the refuge to private land and

harvest generally subsides. Any decrease below this threshold and escape/bedding habitats become available again and deer likely move back on the refuge and harvest temporarily increases concomitantly. This pattern tends to occur as long as the river levels limit available habitat. Annual harvest evaluation in comparison with long term trends will be important to determine appropriate target harvest levels for each subsequent deer season.

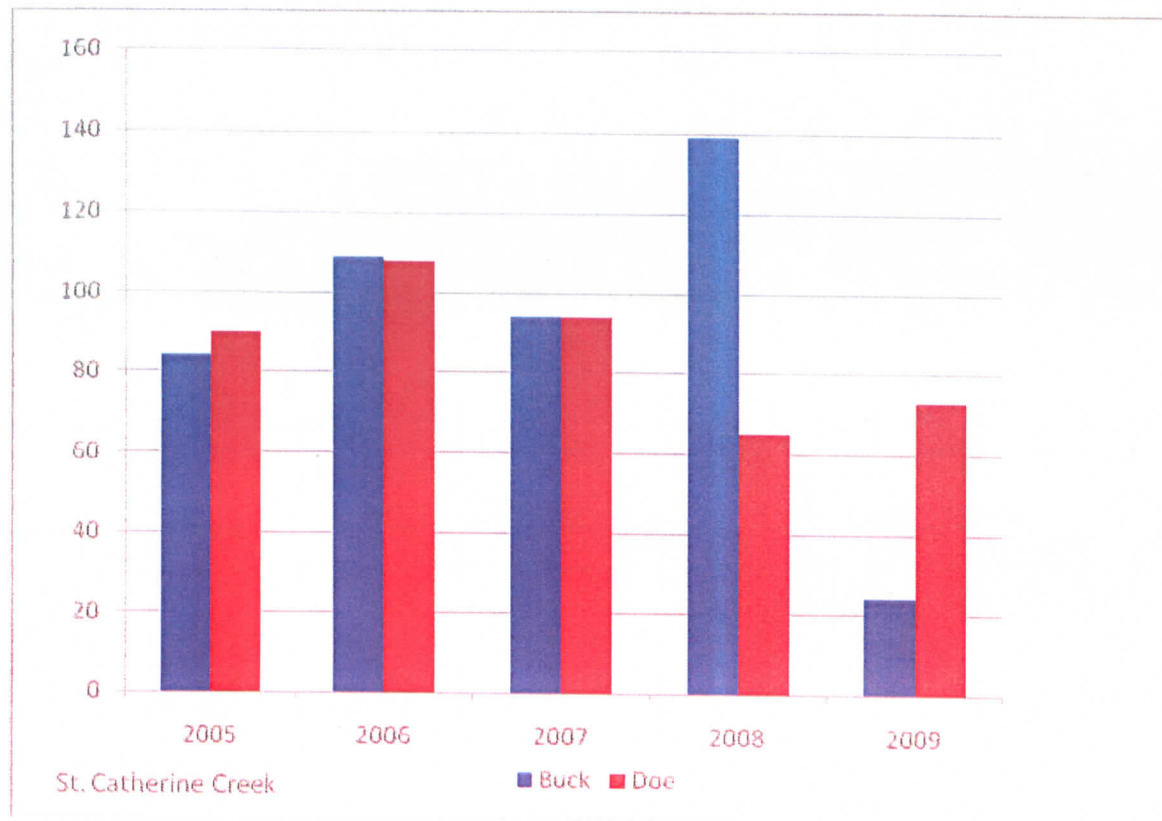


Figure 1. Annual deer harvest on St. Catherine Creek NWR, 2005-2009.

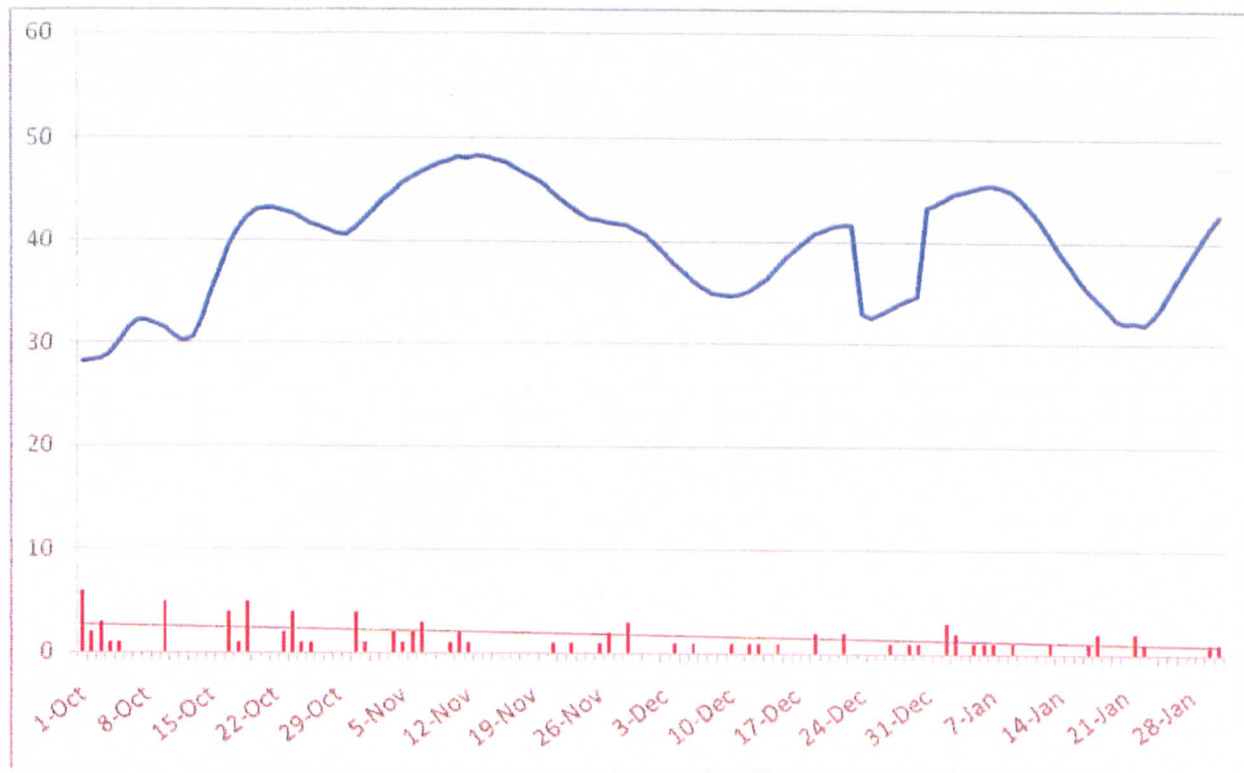


Figure 2. Daily deer harvest in comparison to a hydrograph of the Mississippi River from 1 October 2009 to 28 January 2010.